Listing of Claims

1. (Currently Amended) An application development <u>system</u> ~~tool~~, comprising:

<u>a computing system comprising means for storing and executing an application</u> <u>development tool, wherein the application development tool comprises:</u>

a plurality of modality-specific editors for generating one or more modality specific representations of an application<u>, which comprise means for flagging a</u> <u>component of a modality-specific representation to indicate that the interaction associated</u> <u>with the component is not synchronized across other modality-specific views</u>;

a model generator for generating a modality-independent representation from a modality-specific representation and for generating a modality-specific representation from the modality-independent representation; and

a plurality of rendering units for rendering corresponding modality-specific representations for view by a user<u>; and</u>

<u>a user interface system to enable user interaction with the tool and to present modality-</u> <u>independent and modality independent representations of an application to a user while building</u> <u>the application using the tool.</u>

2. (Currently Amended) The <u>system</u> ~~application development tool~~ of claim 1, wherein the rendering units comprise browsers.

3. (Currently Amended) The <u>system</u> ~~application development tool~~ of claim 1, wherein at least one modality-specific editor comprises a WYSIWYG (what you see is what you get) editor.

4. (Currently Amended) The ~~application development~~ system of claim 1, <u>wherein the</u> <u>user interface system comprises</u> ~~further comprising~~ a display for displaying a view of the modality-independent <u>and modality-dependent</u> representation<u>s</u>.

5. (Currently Amended) The <u>system</u> ~~application development tool~~ of claim 4, wherein a portion of the displayed modality-independent representation is highlighted to indicate that the

2

portion was non-deterministically selected by the tool based on a modality-specific representation.

6. (Currently Amended) The system ~~application development tool~~ of claim 1, wherein a modification in a modality-specific representation is automatically reflected in the modality-independent representation and at least one other modality-specific representation.

7. (Canceled)

8. (Currently Amended) The system ~~application development tool~~ of claim 1, wherein each modality-specific editor comprises a plug-in.

9. (Currently Amended) The system ~~application development tool~~ of claim 1, wherein the tool supports a single authoring programming model.

10. (Currently Amended) The system ~~application development tool~~ of claim 9, wherein the single authoring programming model comprises an interaction-based programming model.

11. (Currently Amended) The system ~~application development tool~~ of claim 10, wherein the interaction-based programming model comprises an interaction model to describe user interaction with the application and a data model to describe data that is manipulated during the interaction

12. (Currently Amended) The system ~~application development tool~~ of claim 11, wherein the interaction-based programming model further comprises meta-information for customizing the application to one or more particular channels.

13. (Currently Amended) The system ~~application development tool~~ of claim 1, wherein the tool supports a multiple authoring programming model.

3

14. (Currently Amended) The system ~~application development tool~~ of claim 13, wherein the multiple authoring programming model comprises a plurality of channel-specific snippets for each of a plurality of modalities that are synchronized with each other.

15. (Currently Amended) The system ~~application development tool~~ of claim 14, wherein the synchronization between channel-specific interaction components are expressed by events in one channel-specific snippet that triggers an event handler in another channel-specific snippet.

16. (Currently Amended) A method for authoring an application, comprising the steps of:

editing a first modality-specific view of the application;

<u>automatically</u> updating an application model in response to the editing of the first modality specific view; ~~and~~

adapting a second modality-specific view of the application based on the updated application model<u>; and</u>

<u>displaying the application model with an updated portion of the application model highlighted for user review.</u>

17. (Original) The method of claim 16, further comprising the step of rendering a modality-specific view using an associated browser.

18. (Original)The method of claim 16, wherein the application model comprises an interaction logic and customization meta-data page.

19. (Original) The method of claim 16, further comprising the step of automatically generating a corresponding modality-specific representation for each modality supported by the application through a transformation of the application model.

20. (Original) The method of claim 16, further comprising the step of automatically generating the application model from a modality-specific representation generated during the editing step.

21. (Original) The method of claim 16, further comprising the step of accessing and editing the application model.

22. (Original) The method of claim 21, comprising the step of displaying the application model in a window in one of a DOM (document object model), text, and symbolic representation.

23. (Original) The method of claim 22, further comprising the step of highlighting a portion of the displayed application model that were built non-deterministically.

24. (Original) The method of claim 16, wherein the application comprises a multi-channel application, wherein a given page comprises snippets associated with the first and second modality-specific views.

25. (Original) The method of claim 16, wherein the method steps are performed by an application authoring tool.

26. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for authoring an application, the method steps comprising:

editing a first modality-specific view of the application;

automatically updating an application model in response to the editing of the first modality specific view; ~~and~~

adapting a second modality-specific view of the application based on the updated application model; and

5

displaying the application model with an updated portion of the application model highlighted for user review.

27. (Original) A method for authoring an application, comprising the steps of:

separately editing a plurality of modality-specific views;

automatically generating a modality-specific model for each view; and

merging blocks of the modality-specific models to generate a single representation of an application model.

28. (Original) The method of claim 27, further comprising adding synchronization information to merged blocks.

29. (Original) The method of claim 28, wherein the application models comprises a pseudo DOM (document object model) representation of the application, wherein interaction components comprise blocks in each modality that are synchronized with each other.

30. (Original) The method of claim 27, wherein the method steps are performed using a application development tool